CLAIMS

1. A transmitter unit comprising:

a sensor for generating a sensor signal having a characteristic that is representative of a variable,

a measurement device for receiving the sensor signal, repeatedly measuring said characteristic, and generating an output signal representing a succession of measured values of the characteristic,

a packetizer for receiving the measured values from the measurement device and generating a succession of transmission packets each including a more recently measured value and a less recently measured value, wherein the more recently measured value that is included in an earlier packet is included in a later packet as the less recently measured value, and

a transmitter for receiving the succession of transmission packets from the packetizer and transmitting the succession of transmission packets.

2. A transmitter unit according to claim 1, wherein the packetizer repeatedly receives the most recently measured value from the measurement device and the immediately preceding measured value from the measurement device.

3. A transmitter unit according to claim 1, comprising a control means for defining a succession of active intervals, and wherein the transmitter transmits the transmission packets during respective active intervals.

4. A transmitter unit according to claim 3, wherein the control means divides each active interval into multiple telemetry slots and selects a telemetry slot for each active interval, and the transmitter device transmits the transmission packet during the selected telemetry slot.

5. A transmitter unit according to claim 3, wherein the measurement device measures the characteristic once per active interval and the packetizer received a more recently

measured value and a less recently measured value from the measurement device for each active interval.

6. A receiver unit comprising:

a receiver for receiving a signal and recovering a sequence of bits from the received signal,

a packet check means for determining whether the sequence of bits meets a predetermined standard and, if so, recovering a more recent datum from the sequence of bits else entering a data recovery mode and determining whether a sequence of bits subsequently recovered from the transmission signal meets said predetermined standard and, if so, recovering both a more recent datum and a less recent datum from the subsequent sequence of bits.

7. A receiver unit according to claim 6, wherein the packet check means comprises a packet recognizer and a packet validator, wherein the packet recognizer determines whether the sequence of bits includes a preamble sequence and, if so, passes a predetermined number of subsequent bits to the packet validator, and wherein the packet validator determines whether said predetermined number of subsequent bits includes an error-free payload.

8. A receiver unit according to claim 6, wherein the packet check means determines whether the sequence of bits recovered from the received signal contains a payload that meets a predetermined standard by determining whether the sequence of bits includes a predetermined preamble sequence.

9. A receiver unit according to claim 6, wherein the packet check means determines whether the sequence of bits recovered from the received signal includes an error-free payload.

10. A telemetry system comprising a transmitter unit and a receiver unit wherein:

the transmitter unit comprises:

a sensor for generating a sensor signal having a characteristic that is representative of a variable,

a measurement device for receiving the sensor signal, repeatedly measuring said characteristic, and generating an output signal representing a succession of measured values of the characteristic,

a packetizer for receiving the measured values from the measurement device and generating a succession of transmission packets each including a more recently measured value and a less recently measured value, wherein the more recently measured value that is included in an earlier packet is included in a later packet as the less recently measured value, and

a transmitter for receiving the succession of transmission packets from the packetizer and transmitting the succession of transmission packets; and

the receiver unit comprises:

a receiver for receiving a signal and recovering a sequence of bits from the received signal,

a packet check means for determining whether the sequence of bits meets a predetermined standard and, if so, recovering a more recent datum from the sequence of bits else entering a data recovery mode and determining whether a sequence of bits subsequently recovered from the transmission signal meets said predetermined standard and, if so, recovering both a more recent datum and a less recent datum from the subsequent sequence of bits.

11. A telemetry system according to claim 10, wherein the transmitter is a wireless transmitter and the receiver is a radio receiver.

12. A method of operating a telemetric transmitter unit that periodically measures the value of a parameter and periodically and sequentially transmits the measured values, the method comprising:

measuring a first value of the parameter, incorporating the first value in a first data packet, and transmitting the first data packet, and

measuring a second value of the parameter, incorporating the second value and the first value in a second data packet, and transmitting the second data packet.

13. A method of operating a telemetric receiver unit, the method comprising:

periodically receiving a signal and generating a sequence of bits therefrom,

determining whether the sequence of bits includes a payload that meets a predetermined standard and, if so, recovering a more recent datum from the payload else entering a data recovery mode, and in the data recovery mode receiving a signal and generating a second sequence of bits and determining whether the second sequence of bits contains a payload that meets said predetermined standard and, if so, recovering both a more recent datum and a less recent datum from the payload.

14. A method of operating a telemetry system that comprises a transmitter unit and a receiver unit, wherein the transmitter unit operates in accordance with a method that comprises:

measuring a first value of a parameter, incorporating the first value in a first data packet and transmitting the first data packet, and measuring a second value of the parameter, incorporating the second value and the first value in a second data packet and transmitting the second data packet;

and the receiver unit operates in accordance with a method that comprises:

periodically receiving a signal and generating a sequence of bits therefrom, determining whether the sequence of bits includes a payload that meets a predetermined standard and, if so, recovering a more recent datum from the payload else entering a data recovery mode, and in the data

recovery mode receiving a transmission signal and generating a second sequence of bits and determining whether the second sequence of bits contains a payload that meets said predetermined standard and, if so, recovering both a more recent datum and a less recent datum from the payload.